

VIRGINIA WILDLIFE

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Photo by Leonard Lee Rue III

The chipmunk in Virginia usually hibernates during cold weather. This small squirrel-like animal is seldom seen in trees and lives mostly on the ground.

VIRGINIA WILDLIFE

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A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting and Fishing in Virginia

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Cover

A fresh February snow gives a majestic touch to everything it covers.

Photo by Harold M. Lambert

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We Are Growing Up

FEBRUARY is a time of the year when we probably have least to do. The gunning season is over and thoughts of spring are still a little distant. The first flush of New Year commitments is gone and we settle down to the quiet business of trying to live a better life. February can be compared to our inner man—perhaps even our nation—as it symbolizes, somewhere, slumber, reawakening, hidden growth, advancement. And so this month we elect to comment not upon February itself but upon us—our growing up as a people and nation.

In our rush to become a great nation I believe we can safely say that we have lost much sight of the real purpose of living. At first we were preoccupied with the struggle of carving out a new empire from the wilderness. New lands remained to be explored, new ways of life pursued. Came expansion, wars, industrialization and more growth. We grew fast and mighty and in our growing we moved so fast that there was scarcely time to see where we were heading. Sometimes—perhaps, oftentimes, as we viewed how the other world lived—we moved with trepidation.

Part of the fear we experienced, which was natural in a young nation, came from our confused distrust of our own strength. But we weathered the storm, and, out of the clatter and smoke of a great material prosperity we began to see signs of a paradoxical trend—an unparalleled interest in the natural and physical world about us and in ways and means of safeguarding certain basic heritages and of making us a happier, healthier, more mature people.

Recently a report has reached us that more than 20,000,000 American families are engaged in some form of do-it-yourself activity, from building their own houses to tying their own trout flies. This surge of personalized activity has become a \$10,000,000,000 annual industry. More and more people are doing things for greater enjoyment than ever before. Museums, art galleries, concert halls, libraries, field sports, birding, nature study, photography, and travel are attracting

more crowds than ever in the history of America. More people are hunting and fishing than ever before. More and more people are trying to find antidotes to the nerve-stretching pressures of modern life.

What does it mean? What does it indicate?

Well, for one thing, it indicates that man is apparently finding more leisure time and is putting it to good use. Out of a restless, troubled, chaotic, and often war-torn world he is emerging a mature individual and adding his strength to the growth of a mature nation.

What are some of the reasons for our present preoccupations? We can think of many but two will suffice—a gradual slowing down of our zest for the superficial and the gradual loss of fear of ourselves and our future.

No matter what the causes may be, there is increasing evidence that we are slowly emerging out of immaturity and bewilderment into the fresh air of our own confidence. The sunlight and rich ozone feels good. We have reached a turning point in life, a period not of sudden, wild exaltation but of honest, quiet re-examination of the purposes of living. As individuals and as a nation we are finding ourselves in the true light. We are finding out that the meaningful satisfactions of life come not from materials and machines but from things of the spirit, from such things as religion, music, art, nature, fine books, companionship of people, the love of animals. Hours are not mere passage of time but what fruits they bear in purposeful experience. More than ever we are concerned not so much with how fast we consume time but *how well* we consume it. More and more we are concerned with the quality of our pastimes than in the abundance of it: a man hunting birds or big game with a camera or a family seeing a Disney True-to-Life movie; a canoeist exploring a wild area; the quiet pleasure of reading good books; the uplift of a fine sermon or a moving concerto on Sunday—these things and many others give us abundant reason to believe we are progressing toward cultural maturity, a brighter future, and a more abundant life. — J. J. S.

... Mountains, beaches, waters, forests, animals, historic and prehistoric structures and sites, and man himself. They are perishable resources. They are impoverished when the industrial aspects of civilization are not kept in balance with the cultural, and when man is simply ignorant, careless, or indifferent toward them. With each new generation either we shall learn how to appreciate them, how to plan for their perpetuation as being among the most priceless of those "blessings of liberty to ourselves and our posterity," or we shall take them for granted as long as they last, and having lost them never realize how much they should have meant in avoiding recession into social indolence and degradation." George L. Collins, in *Planning and Civic Comment*.



Virginia Highway Dept. Photo by Ailstock

Creating

Putting more acres under water is one big answer to heavy fishing pressure.

MORE FISHING WATER

By R. W. ESCHMEYER

If there is a big demand for a farm crop, that demand can be met partly by increasing the yield per acre through fertilizing, use of better seed, better cultivation, or by some other method or combination of methods. However, if the demand is great, it can be met mainly by putting more acres into the production of this particular crop.

In areas where fishing waters are few, we can help the fishing somewhat by managing these limited waters as wisely as possible. But, on even the best-managed waters, the production of fish is limited. The answer to heavy fishing demand, in areas with few fishing waters, is a simple one. The demand can be met properly only by putting more acres into fishing water. Fortunately, this fish conservation "tool" is getting more and more use.

The new waters fall into three major groups: farm ponds, public fishing lakes, and reservoirs built mainly for purposes other than fishing. Getting access to existing waters, too, can be regarded as a part of the "creating-more-fishing-water" program. The several kinds of waters will be discussed separately.

The Farm Pond

So far as we know, there is no exact information on the number of fish-producing farm ponds in the United States. The best estimate seems to be that this number now exceeds a million.

Any one of these ponds supports little fishing, but the total amount of angling is impressive—theoretically, at least.

This is the 6th of a series of Fish Conservation Fundamentals by the late Dr. Eschmeyer, distinguished fisheries scientist.

If we have a million farm ponds, and if these average only a half-acre in size, and yield only 100 pounds per acre to the angler, the catch would add up to 50 million pounds of fish. If each pond provided only ten days of angling recreation, it would add up to one fishing day for each sixteen people in the United States.

A single pond may seem insignificant from the standpoint of national fishing, but the ponds collectively can and do contribute very decidedly to our angling.

There are still many problems; some ponds aren't built properly, some aren't managed intelligently, some are unproductive because of poor watershed management. But, these limitations are gradually being overcome by research and education.

Some farm pond advocates put heavy stress on the pond as a source of meat for the farmer. If our own rural background was typical, this argument has limitations. After a hard day of physical work, the farmer may enjoy catching fish, but cleaning them is another matter. There was a time when this created no problem—when men caught the fish and the women folk cleaned them—but that day seems to be past. Chances are that the average farmer will take care of his meat problem by butchering a cow or hog at intervals.

The big future for the farm fish pond, as we see it, lies in it furnishing a cash income, by allowing others to fish the pond, for a fee. This will be true particularly during periods of low income from the regular farm products.

The Club Pond

Many sportsmen's clubs have built fishing lakes, usually for use by club members. These are excellent

projects. As a rule, they are bigger than farm ponds, though the problems are similar. The tendency is to expect too much from these ponds. An annual take of 100 pounds per acre would be well above average. For a club with a hundred members, this would represent one pound per member per acre per year. Of course, the pond could provide an endless amount of badly needed relaxation, even though the yield in "meat" is limited.

Public Fishing Lakes

A number of states are now using some of their fishing license and Dingell-Johnson (federal aid) money to build public fishing lakes, usually ranging in size from fifty to several hundred acres. A survey made by the Sport Fishing Institute about a year ago showed that some 163 such lakes had been built in the preceding five years, and that 70 more, averaging 120 acres, were under construction or in advanced planning stages.

The Alabama conservation department has demonstrated what can be expected from such a program, by keeping a record on its state-built fishing waters. In 1953 the state's eleven such waters (total acreage 591) attracted 100,183 fishermen (fisherman-days), and yielded 357,714 fish, weighing 99,871 pounds. This averaged out to 170 fisherman-days and 605 fish weighing 169 pounds for each acre of water. These lakes, built since 1947, are located in areas with insufficient fishing water, are fertilized, and are located in watersheds where they are relatively free from erosion.

In a number of states the lake-building programs should have high priority. Of course, they will have continued good fishing only if properly managed. Since we still don't know, in many areas, what constitutes proper management, it's essential that a good, down-to-earth fact-finding program accompany the lake-building projects.

One item merits special consideration. There is a tendency to suggest building lakes on relatively unproductive land, because of the higher cost of land in pro-

Virginia in recent years has constructed 6 public fishing lakes in areas where fishing water is scarce. These lakes range in size from 70 to 156 acres.



ductive watersheds. Despite the lower initial cost, this is a poor practice to follow. A study of two state built lakes in Tennessee, similar in size and construction, showed that one draining productive soil had an excellent fish yield. The other, in a nearby but unproductive watershed, did very poorly. In water, as on land, the amount of nutrient materials available largely determines the potential carrying capacity.

Big Reservoirs

Here we have a controversial subject, mainly because of the tendency to be all for or all against dams. Some have been highly beneficial to fishing; some have been harmful. You can't generalize on the effect of dams on fishing; each dam, or potential reservoir must be considered separately, along with the present or proposed operation program for that particular body of water.

For example, dams built for other purposes have greatly increased the fishing in the south, from Texas and Oklahoma to the Carolinas. They have been detrimental to fishing in other areas, particularly in the northwest. Here, construction of high dams threatens extinction of important anadromous species of salmon and trout.

In the Tennessee Valley, after impoundment, fishing increased 45 to 50-fold on storage waters and 10 to 15-fold on the mainstream. This survey was made some years ago; on some waters the fishing intensity has increased rather decidedly since that time. For example, fishing in the TVA tailwaters below the mainstream dams has been rising steadily. Daily counts for the 1953 fiscal year showed 810,333 man-days of fishing immediately below eight mainstream dams. This was more than double the 1947 estimate of 339,000.

Because of the dam-building program, fishing in parts of the south is much more extensive, and more successful, than it was twenty years ago. The improvement was by accident, not by design. It happens that here good fishing waters were few in pre-impoundment days. Too, in a normal year, operations do not prevent

Public access is an important consideration when thinking of fishing waters. A number of states are now giving this problem high priority in their fish program.





U. S. Army Eng. Photo

You cannot generalize on the effects of dams on fishing; each dam, or potential reservoir, must be considered separately. Some are beneficial; some have been harmful to fishing.

the development of a fair-sized crop of fish. Major drawdown is in winter, when it interferes little with fish populations. At spawning time the reservoirs are filling, with water levels generally rising slowly. Erosion is limited enough so that the waters are not too muddy over long periods of time for good fish production. In waters where insects are few, good production is possible, nevertheless, because the main food chain (for desired species) is microscopic food to shad to crappie and black bass or white bass.

Despite the constant increase in numbers of reservoirs, insufficient fact-finding effort goes into these waters. Research might well point the way to improved fishing in some reservoirs which now provide poor angling.

Usually, the success of a reservoir for fishing hinges on the condition and fertility of the watershed. If the silt is kept on the land, and out of the water, the chances for having good fishing are greatly increased. Muddy waters don't provide good fish crops.

Where dams are installed and operated for hydro-power, flood control, or irrigation, the over-all management program should give proper consideration to the fishing interest. We know of few instances where such consideration is given. This may be due partly to our lack of knowledge regarding proper reservoir management from a fish production standpoint.

Public Access

In effect, we are creating more fishing water when we provide access to waters which already exist. A number of states are now giving high priority to the problem of providing public access. This problem will increase as the population grows, and as land values rise.

An owner who might allow limited public use, might install "no trespass" signs when that use increases considerably. Unfortunately, in any sizeable group of anglers, we can expect a small number of them to have

little regard for private property. These are the ones who clutter up the landscape with beer cans, paper containers, and other debris.

The alternative to free access is the buying or leasing of land and water by the state. It's a costly program in areas of high land values, but it will be even more costly as the population increases.

Closed Waters

Some water supply reservoirs are open to public fishing, others are not. San Diego's water supply lakes have been fished for over twenty years, with no indication that the fishing was harmful in any way to the drinking water. The city has regularly charged a small daily fee, which pays for enforcement of the sanitary regulations imposed.

Where water supply lakes are closed to fishing, as many of them are, the cause can generally be regarded merely as stubbornness on the part of the officials. They don't want to be bothered with public fishing. On municipal water supplies, sportsmen can demand that fishing be permitted, with sanitary regulations strictly enforced, and with the charging of a fee, if need be, to pay for the enforcement.

In General

Some fishing waters are constantly being lost to the public by drainage, diversion of water, siltation, pollution, and posting. But, others are being created. A number of states now have much more fishing water than they had a few decades ago because of the extensive farm pond and public fishing lake building programs. In some areas, too, fishing has been increased through the building of reservoirs used mainly for other purposes, and through public access programs.

In the face of constantly increasing angling pressure, the "providing-more-fishing-water" program is an extremely important one.



Commission Photo by Kesteloo

The Pinnacles of Dan is typical high altitude country in Virginia's Blue Ridge and Allegheny mountains.

Fascination abounds in the flora and fauna of

High Altitude Country

By JOE L. COGGIN

VIRGINIA'S mountain highways are dotted with numerous beautiful lookout points which are enjoyed by thousands of people each year. These overlooks are always located on some high mountain, and thus offer a panorama of distant valleys, mountain peaks and space. The thrill of this scene is enough to cause everyone to stop for a long look, but if they see only valleys, mountain peaks and space, they have only touched the surface of what nature has to offer.

Altitude makes a difference - a big difference - in the type of flora and fauna that may be found in the area. Some species of plants and animals may tolerate any altitude ranging from sea level to possibly 5000 feet above sea level or higher; however, suppose our lookout spot is around 3500 to 4000 feet elevation. What can we expect to find there in the way of plants and animals which further enhance the beautiful panorama?

Plants. Under a thin canopy of red or chestnut oak, with a casual black or yellow birch to add a little variety to the scene, a thicket of purple laurel and rosebay (both are species of Rhododendron) will be the first plant life to catch the eye. The large leathery leaves of these two evergreens quickly distinguish them from surrounding plants at any time of year. Purple laurel will have rose or lilac-purple clustered blossoms in May or June and rosebay blooms in June or July with beautiful clusters of rose-pink and white flowers. It is a common belief that these two shrubs will not thrive in the lower altitudes, but with proper transplanting and care they will grow in the lower altitudes as far east as Richmond, Virginia.

The heart shaped evergreen leaves of the trailing arbutus serve as an indicator that the soil is very acid and free from earthworms. This prostrate undershrub blooms from March to May with white to pink funnel-

shaped flowers, and is of the same family of plants as the *Rhododendron*.

In late summer the turks-cap-lily will be hard to miss if it is growing in the area. The purple spotted orange sepals and petals are so strongly curved back that they display their large pollen producing anthers which grow on filaments over one-half inch long. These lovely flowers may also be noticed in the lower altitudes.

There are three common species of *Trillium* which are found in the higher elevations of Virginia as well as elevations lower than 3500 feet. These showy members of the lily family grow in the moist shaded areas of the woods and bloom in early spring. The painted trillium is perhaps the most delicately beautiful of all the trilliums. Its white petals, veined with crimson and purple, give it a place of distinction among all the others. The great trillium, or large flowered wake-robin, will have large white flowers when it first blooms, but if you see it a few weeks later, it will have changed from white to pink. Last we have the nodding trillium with whitish to cream or pale pink petals, the flower nodding and nearly hidden under the leaves. If you are in the mountains in the springtime, be sure to search for trilliums; they are among the choicest wild flowers of North America.

A host of other interesting flowering plants may also be found at high elevations: Canada violet, spring beauty,

3-leaf crinkle-root, yellow star grass, wood leek and wood anemone Marsh-Marigold are among those typically found.

Ferns will also be quite common in the moist shady places, forming a delightful green background for other plants. The large fronds of the cinnamon fern will be easily recognized, with the leaf stalk and central stem having a rough hairy or wooly coating of cinnamon brown. Other typical mountain ferns are: Clinton's fern, woods fern and fancy fern.

A plant guide will be a very handy asset for anyone interested in really learning our native plants.

Birds. Even the highest lookout point you may visit in Virginia's mountains will be well within the altitude range of two of our most popular game birds: ruffed grouse and wild turkey. The wary nature of these birds makes them an unlikely sight around places where people congregate, but in case you run across them the sight will be hard to forget.

Some 14,000 wild turkeys have been stocked in Virginia by the Virginia Commission of Game and Inland Fisheries, cooperating sportsmen's groups and interested individuals. Ruffed grouse, on the other hand, cannot be feasibly pen raised on a large scale, and any you see in Virginia will be pure native stock.

The indigo bunting, brown thrasher, ovenbird and towhee (ground robin) do not seem to be limited in

Trillium



Marsh marigold



Mountain ash



Chicadees



Ruffed grouse



Raven





Red squirrel



Bobcat



Black bear

their altitude requirements in Virginia. All four of these beautiful birds are noisy creatures and may be observed from the bottom of the mountain to the top.

If you are wondering what happened to the Carolina juncos (snowbirds) that heralded the oncoming winter by flocking in your back yard last fall, you may find them nesting in a bushy shrub on top of the mountain in the middle of the summer: a winter wren or white-throated sparrow pestering her in competition for a nesting site in the same area.

The tiny brown creeper, using his tail for a prop, can't keep still a moment as he climbs a tree like a spiral staircase, then flits over to the base of another tree to repeat the process in search for grubs and insects with his long curved bill. Another agile little tree climber to be found at high altitudes is the red breasted nuthatch. Nuthatches are distinctive from all other tree-climbing birds in that they habitually come down the tree headfirst. Watch for them within evergreen trees such as the red spruce. The cones of this tree furnish them with an abundance of their favorite food. High in the evergreens is also a good place to look for the golden crowned kinglet and occasionally a winter wren darts up from a pile of brush.

The raven's raspy call can be heard echoing from the lofty peaks. This bird is at home in wild sections of high mountain country and it is a thrill to see them winging their way in the clear blue sky.

The warblers are often called the "butterflies" of the bird world because of their gay colors. Rhododendron thickets are excellent places to look for these bright colored little songsters. Typical of the higher altitudes in Virginia are the myrtle, blackburnian, and Canada warblers. Describing these active creatures would indeed be a lengthy process and would not lend much to their identification in the field; so why not take a good bird guide along and enjoy identifying these and many others on your trip through the mountains of Virginia.

Mammals. Have your camera ready for quick action, because you never know when a Virginia white tailed deer or a black bear might come along. Most deer you see in Western Virginia are a result of stocking by

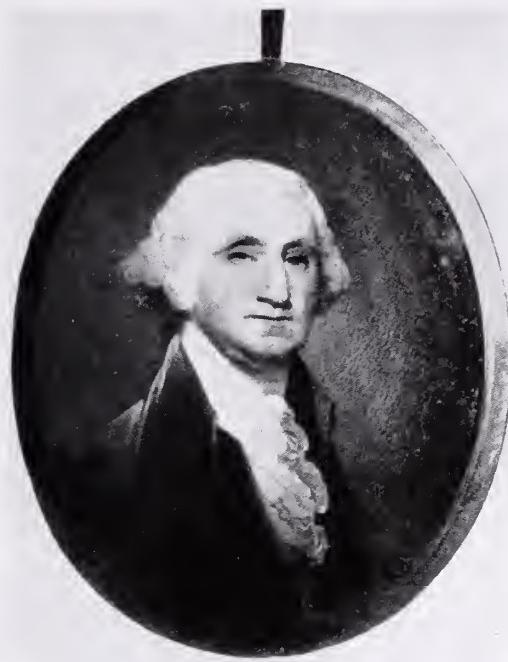
the Virginia Commission of Game and Inland Fisheries; however, the black bear has had to maintain his own without the help of stocking. Neither of these animals is restricted to the altitude of 3500 to 4000 feet above sea level, but they are seen occasionally at some of the overlook points.

The deer mouse is a cute little high altitude character you would probably never think to look for. He has white feet and belly, sides and face russet brown - somewhat darker on the back - and big bulging eyes. This colorful and timid little mammal has not been a pest to the same degree as has the house mouse.

Wildcats are more common in the mountainous portions of the state but are not restricted in Virginia by altitude requirements. They are seldom seen except by those who venture into heavily wooded and brushy country, especially in broken rocky sections. The only other Virginia animal which might be confused with the wildcat is the common house cat, but they can be distinguished easily as the wildcat is much larger and has a short, black-tipped tail.

The tiny red squirrels of Virginia are not very common but their range is usually in the higher altitudes of this state. He is really a forest cut-up, jumping from limb to limb and chirping all the time. His general coloration is rufous above and white below, but in the winter he has a broad rusty red band extending along the back from head nearly to tip of the tail, with black tufted ears. In summer the red band turns to a more olive color and the ears are not tufted. It is doubtful if they will be found in numbers in any of the western counties of the state other than Highland, Bath, Giles, Montgomery, Floyd and Grayson, and is seldom seen in those counties.

Only a few of the many showy and interesting plants and animals have been mentioned. There are scores of others which will make any mountain-top visit a pleasure for those who take the time to look about carefully. The more we see of these higher altitude inhabitants, the greater is our appreciation of our mountain wildlife. To see is to know; to know is to love; to love is to wish to encourage and preserve these mountain dwellers.



Cottoni's miniature of George Washington presented to Tobias Lear by Martha Washington.

WASHINGTON'S love of country went much deeper than concern for national independence and democratic government under just laws. It reached literally to the roots of the republic, for few men of his time were better informed or more alert to the need for conserving and developing our natural resources. All the wealth of the land—soil, water, forests, minerals, animal and fishlife—excited his attention, study and even investigation and experiment on his own lands.

"Nothing in my opinion," he wrote William Drayton in 1786, "would contribute more to the welfare of these States, than the proper management of our Lands; and nothing, in this State (Virginia) particularly, seems to be less understood. The present mode of cropping practiced among us is destructive to landed property; and must, if persisted in much longer, ultimately ruin the holders of it."

But Washington did more than sit back on his mansion porch and criticize poor land use and point out the perils of erosion. He was up before sunrise, winter and summer, working on the problem of restoring and preserving his own lands, some inherited and others purchased, but many of them gullied and impoverished by over-planting of tobacco and corn.

One of America's first experimental agriculturists, Washington was astonishingly modern in his approach and open-minded to new ideas. He advocated the planting of grass, the use of fertilizer, the rotation of crops—and practiced what he preached.

Washington did all he could to keep informed about new developments. He corresponded with such English experts as Arthur Young and Sir John Sinclair. Among his papers are long, detailed notes from such works as Tull's *Horse-Hoeing Husbandry* (1731), Duhamel's *A Practical Treatise of Husbandry* (translated, 1759), *The Farmer's Compleat Guide* and volumes of Young's *Annals of*

GEORGE WASHINGTON

The Nation's First Conservationist

By DOROTHY TROUBETZKOY

Agriculture, a periodical of experiments in agriculture and stock raising, some of whose advanced principles are being adopted only in our own time.

Washington's diaries are full of references to his planting of trees, hedges, experimental flower, herb and vegetable plots, the raising of stock, trials of new crops and agricultural machinery, the development of his fishery—even the stocking of deer and game birds. He was also much concerned with the potential mineral wealth of his western lands. The tract of 1200 acres he bought on the Youghiogheny River, not far from present Pittsburgh, bore seams of coal Washington examined in 1770 and thought "to be of the very best kind." It was subsequently valued at many millions.

But how to restore and conserve the soil seems to have been Washington's primary worry. In looking for a new manager for his plantation, he wrote that the man must be "above all, Midas like, one who can convert everything he touches into manure, as the first transmutation toward gold; in a word, one who can bring wornout and gullied lands into good tilth in the shortest time."

He drew up elaborate plans for the rotation of crops on his different farms. On the Dogue Run Farm, for example, he had to deal with 525 arable acres, divided into seven fields, each of about 75 acres. Of the rotation worked out for this farm, Washington commented that it "favors the land very much; inasmuch as there are but three corn (grain) crops taken in seven years from any field, the first of the wheat crops is followed by a Buck Wheat manure for the second Wheat Crop, wch. is to succeed it; & which by being laid to Clover or Grass and continued therein three years will afford much Mowing and Grassing, according as the Seasons happen to be, besides being a restoration to the Soil—But the produce of the sale of the Crops is small, unless increased by the improving state of the fields. Nor will the Grain



If Parson Weems' cherry-tree-chopping tale was true, certainly Washington atoned for the prank by planting trees of many varieties until the end of his life. An artist in the 1850s conceived this scene of the first president planting trees at Mount Vernon.

for the use of the Farm be adequate to the consumption of it in this Course, and this is an essential object to attend to."

Washington was never the idle philosopher, but translated his theories as completely as he might into practical action. Whether he wrote about the importance of good seed, his "barrel plow," a kind of drill he invented, the evils of tobacco culture, how to prepare a seed bed, getting the right stand of grain, or the value of fertilizers, you could bet your boots he was giving the advice out of his own down to earth experience.

To conserve the soil of his lands, Washington turned more and more to the planting of grass and the raising of livestock. We read again and again in his diaries of his experiments with "lucerne" (alfalfa) and other grasses and vegetables unknown to most Virginians of his day. He advocated such then revolutionary practices as fall and winter plowing and the plowing under of oats, peas, beans and buckwheat.

Washington wrote some 10,000 words in his diaries about trees alone and there too the necessity of proper soil for each kind of tree was emphasized. From the first mention of grafting 40 cherries on March 21, 1760 to the last one on November 31, 1788 when he "finished pruning the Weeping Willows, and other Trees in the Serpentine walks front of the House," his love of trees was proved in lifelong practical effort, for he was not one to stand off and give them mere poetic admiration. He studied the soil, the climate, the pruning, grafting

and transplanting methods and all their other needs as thoroughly as he could. His knowledge of tree lore and tree care—both fruit, forest and ornamental trees—was immense. "He met," wrote Erle Kauffman, "every emergency, every problem with the sureness and technique of a trained forester."

Washington's favorite outdoor sport was hunting and on many a fox-hunting day he breakfasted on corn cakes and milk by candlelight so he would be in the fields at daybreak. Thomas Jefferson praised him as the finest horseman in America and he raised hounds and horses as a hobby. Though fox-hunting was his particular sport, there must have been great adventure too in his big game hunting on the western lands, especially in the buffalo hunt on the trip to the Ohio in 1770.

At home, in addition to the usual domestic fowl and stock, he had Chinese pheasants, partridges from the Island of Malta, Chinese geese. From a jack and jennet presented to him by the King of Spain, he raised the first mules in America. In fact, so many exotic and interesting animals and birds of one sort and another were given to Washington, that toward the end of his life he had a considerable zoo to add to the other attractions of Mount Vernon.

After the Revolution he created a deer park there, below the hill on which the mansion house now stands. The park contained about one hundred acres and was surrounded by a high palisade about 1600 yards long. In

(Continued on page 22)

LAST CHANCE FOR RECREATION-AMERICA'S FOREST LAND

By ERNEST F. SWIFT
Executive Director, National Wildlife Federation

RECOGNITION of public interest and equity in the recreational potential provided by public and private forest lands was in evidence at the recent meeting of the Society of American Foresters at Portland, Oregon. Two papers were delivered, one by a member of the U. S. Forest Service and one by a representative of private industry that evinced enlightened understanding and sympathy with the problem.

In fact, at each successive meeting of the Society, an increasing interest is evidenced by attendance at the section meetings where wildlife and recreation problems are discussed.

The pure-quill saw log forester who manages public lands is gradually being forced to give more than lip service to the impact of millions of hunters, fishermen, campers, wilderness advocates and just ordinary sight-seers that are constantly on the prod. Private industry is viewing this hair-shirt problem with mixed feelings.

These outdoor disciples substantially influence public opinion, and are not averse to storming legislative halls to air their crusades. Public agencies cannot long exist without public support, and private business is becoming painfully aware that it cannot be entirely ignored.

In the far northwest several lumber and pulp companies are making an honest and sincere effort through the public relations media to keep their lands open for public recreation and at the same time minimize the wear and tear that this use imposes. In the Great Lakes region the forest industrial holdings are generally open to hunting and fishing on a sort of truce basis. In some other regions where tree farming has taken on economic significance, trespass signs appear to be on the increase.

Industrial foresters are mortally afraid of fire, and rightfully so, but some states claim the hunter and fish-

erman as their most careful clients. Such a reputation must be earned the hard way.

Many recreationists seeing vast wooded areas as a place to indulge their outdoor hobbies are not definitive in the matter of ownership. To them it is free territory or at least quasi-public in character. But too often they leave their badges of good citizenship at home and almost universally become litterbugs; others lose an even greater sense of responsibility, and a small minority resort to destructive vandalism.

Ignorance of economic values in the womb of the silent land with its forests, grazing lands, and watersheds, the fundamental strength of our democracy, is almost frightening. Yet, an increasing number feel the spell of its majestic power and would move heaven and hell to preserve it.

The outdoor public must learn to respect property, and both economical and esthetic values before it can assume the role of the evangelist. Forest industry and some members of the public agencies must cease looking down their noses at the rank and file of God's patient poor who desire some elbow room.

The pot calling the kettle black before legislative committees will not advance conservation; but it will furnish an out for legislators if that is what they are looking for. Recreationists and forest industry would do well to sit down around the conference table and discuss the areas of agreement and disagreement before opposing each other on the matter of legislation.

All in all, there are growing signs of improvement, but much statesmanship must be forthcoming before the two groups, both avowing their dedication to conservation precepts, will have solved all their differences.

North American Wildlife Conference to be held in New Orleans

The 21st North American Wildlife Conference, under the sponsorship of the Wildlife Management Institute, will get under way on March 5 at the Jung Hotel in New Orleans.

Major conservation issues and all phases of restoration and management of our renewable natural resources will be discussed by authorities in the various fields.

The technical program will again this year be formulated by the Wildlife Society. Its president, Justin W. Leonard, has appointed John S. Gottschalk, assistant chief of the Federal Aid Branch of the U. S. Fish and Wildlife Service, to represent the Society as chairman of the technical sessions.



The first step is to sketch the outline of a decoy on a block of wood, light in weight. Chop out rough body.



With a rasp, work the body down until it resembles the species of duck desired.



A cypress knee is light and easy to work. This coping saw is adequate but a power tool will make the job of cutting out the head easier.



The finished product is rugged, life-like and

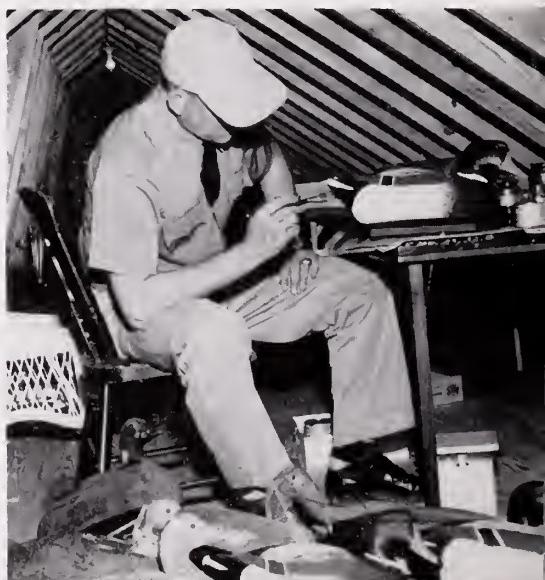
Make

DUCK

A useful and pleasant way to spend some time by bleak cold February days and nights. That is when the skeins of waterfowl come down during the winter months. Aside from being useful and artistic and creative

Here George A. Gehrken, Commission director, shows how to mass produce decoys by using

Commission



Paint the finished decoys with decoy paint. Use color and pattern to represent the species desired.



little care will last for many gunning seasons.

Our Own DECOYS

are hours when outdoor activities are restricted
decoys will be useful next hunting season
the North seeking a warmer place to spend
they are fun to make and will bring out the
enthusiasm of the sportsman.

John Kesteloo, state game biologist for eastern Virginia, shows
only a minimum of simple hand tools.

by Kesteloo



Melted lead poured into sand molds produces low cost
anchors for the finished decoys. They are easy to make.



Finish the head with a sharp knife. A rasp and sandpaper will add the finishing touches.



Attach the head to the body with a strong wooden dowel.
The head can be turned in any direction.



Soak decoys with hot boiled linseed oil to keep them from becoming waterlogged
and as a protection from the elements.

Winter days idle to you?

Looking for something good to do?

Then why not

Plan Now for More Wildlife

By J. J. SHOMON

EACh year when February rolls around I make special effort to get out into the fields and woods and see how our wildlife is faring. These trips are personally profitable in many ways. The gunning season is over and you can once again observe wildlife in its undisturbed surroundings. Too, you can see first hand the appalling needs of wildlife for no month like February is so strenuous on our furred and feathered friends. A trip through the woods after a snowfall is a real experience. Not only does Nature then reveal many of her secrets but she also brings into sharp focus the im-

It may be a little early to start planting—but not planning.
The Game Commission will help with this planning.



Get in touch with your nearest district game biologist, county agent or SCS representative and follow his advice.

portance of her two basic needs of wildlife—food and shelter.

February is our most inactive month. The average person doesn't know what to do with himself much of the time. December and January are usually so strenuous that when February comes around we're inclined to take it easy. Nothing wrong in this, of course, except that pure idleness when excessively frequent does us no good.

To me February is a month of opportunity. In these 29 days lie challenges and opportunities, occasions to put idle hours to good use benefiting wildlife, our farmer friends, and in the final analysis, ourselves. Every person and any group can do something for wildlife in February, if nothing more than planning for the year's wildlife needs. Even the city dweller has his opportunity.

To help individuals and groups to do something constructive during February, I have prepared a list of useful activities. By no means complete, it might serve as an idea as to what can be done when February days get too long to endure and spring fishing days are still far away.

Projects for Sportsmen

Now that the hunting season is over, don't forget wildlife and your farmer friends. As an individual you might:



A food patch near adequate cover will be used more. Cover in conjunction with food is an important consideration.



A food patch can be prepared and seeded in a short period of time with modern farm machinery.

- (a) Help set up emergency shelters for wildlife such as corn shocks, brush shelters, escape covers for rabbits, quail, etc.
- (b) Donate some feed to the landowner where you hunt; might even help distribute it.
- (c) Lend your farmer friends a day or two of farm help. He in turn will do more for wildlife come spring, summer.
- (d) Spend your idle hours building and erecting squirrel and wood duck nest boxes; brush shelters for fish is also a good project; help the state stock fish in your area when the truck arrives.
- (e) Plan to take over a food and cover patch on some farm where you plan to hunt. Order your seeds or plants Now!

Projects for Landowners

It may be a little early to start planting—but not planning. If you want more wildlife on your place, there's only one way to get it. PLAN your farm operations for more wildlife. Here are a few things you can do.

- (a) Resolve that this year you'll not crop every inch of land, every last possible edge, furrow, corner. Wildlife will increase to the extent you give it food and cover and protection. Save some stubble.
- (b) Try to keep down loose running dogs and cats on your place.

- (c) Plan for that new farm pond or add another. Get SCS assistance.
- (d) Get in touch with your nearest district game technician and your county agent and SCS representative and follow their advice.
- (e) Plan to put in some extra food plantings this year. The Game Commission will usually provide the seed.

Projects for City Dwellers

You too can do something constructive for wildlife. You can lend moral and financial support to wildlife conservation projects, become active in a club, or do any of the following as an individual:

- (a) Start a hobby of building animal and bird homes such as nest boxes, etc. and see to it that they get put out. Taxidermy, wildlife photography, bird study are also good hobbies.
- (b) Make and service bird and squirrel feeding stations around your home.
- (c) Make one or more visits to the country with the specific interest of doing something constructive for wildlife, like distributing sections of culled tiles as escape cover for rabbits. (You can buy 4 inch culles very cheaply.) Take the youngsters along. If you like to fish, help with some improvement around a pond like putting up brush shelters, planting willows, etc.



Above—Planting pine seedlings is an excellent project for individual sportsmen or organized sportsmen's clubs.

Below—Sportsmen, spend your idle hours building and erecting squirrel and wood duck nest boxes.

Above—Make one or more visits to the country with the specific interest of doing something constructive for wildlife.

Below—Help feed quail coveys on some farmer's land. Although natural food is better, sometimes emergency feeding will help.

- (d) Help feed quail coveys on some farmer's land. Though not the best project, it will do some good and will create interest.

Projects for Women's Clubs

Organized women's clubs have a golden opportunity to help wildlife and do something useful in conservation. Clubs should keep themselves fully informed on conservation and have frequent good programs. The best are readily available and usually free. Interest in conservation isn't enough. To be worthwhile, interest must be transmitted into an action program: supplying books on wildlife and conservation to the local school or library; raising money to send youngsters or teachers to conservation camps or teacher workshops; putting on local educational exhibits during *Wildlife or Conservation Week*; setting aside and developing a local marsh, swamp, or woodland as a refuge for wildlife. Talking conservation is good but *doing* conservation is better.

Projects for Youth

Young people have so much energy and such capacity for good that it is a shame that more parents don't direct this force toward a useful purpose. Instead of so much TV and shoot-'em-up cowboy entertainment, our boys—and girls—could be doing a million and one useful things in conservation. Juvenile delinquency is rare among scouts, FFA boys, Home-ec girls, and other similar groups. If your boy or girl is not a member, here is one thing you can do to get your youngster actively occupied during February and all of the days of the year. Space does not permit the enumeration of various good conservation projects for youth since there are so many. Any Scout handbook will list them. If you're still at a loss for projects, a letter to the Virginia Game Commission or any other of the natural resources agencies will surely uncover more.

February, idle time! Not on your life if you are interested in doing something about it. Why not turn it to good for wildlife and conservation?



Many sportsmen's clubs, civic organizations, garden clubs, schools, and other clubs are keeping informed on conservation by inviting trained resource use specialists as guest speakers at their meetings.

KEEPING INFORMED ON CONSERVATION

By CLARK SPELLMAN
*Director, Area Development Department
Virginia Electric and Power Company*

(Many civic and service clubs are genuinely interested in conservation but for one reason or another never transmit their interest into an action program. Keeping abreast of what's going on in resource conservation is one thing all clubs can do. Here is a good example of how one club kept its membership informed on resource problems during 1955. It might well serve as a good example to other clubs. —Editor)

THE principle theme for the 1955 meetings of the Richmond Agricultural Grange was the "Conservation of Natural Resources," and its importance in Virginia's expanding economy. The Grange stressed their importance because of rapid population increases and expanded industrialization, and their relationship to agriculture.

The wise use and conservation of natural resources are of great importance in Virginia's present and, to an even greater extent, in her future economy. Each of us, our children and grandchildren, is affected in some measure.

The first program on January 31, 1955, concerned conservation of all resources, followed by the excellent colored movie, "Yours is the Land." The speaker was J. J. Shomon, chief of the education division and editor of "Virginia Wildlife," Virginia Commission of Game and Inland Fisheries. His remarks, timely warnings and advice concerning the conservation of natural resources adequately set the stage for subsequent meetings.

On February 14, William E. Cooper, executive director of Virginia Forests, Inc., gave an illustrated talk on Virginia's forest resources and their importance in the state's economy. He also briefly described the recently announced Governor's "Plant More Trees" program, and the three-year goal of plant 75,000,000 seed-

lings in the next three years, more than were set out in the last 30 years.

The third in the series on conservation took place on March 14. E. W. Mundie, state extension soil conservationist, spoke on the importance of soil and water in Virginia's economy. The value of small watershed conservation and wise conservation practices were stressed.

A change of pace occurred on April 11, when Mrs. Janet Stuart Durham talked on "The Worm and I," a splendid talk on "backyard conservation" and the importance of mulching, compost, etc.

On May 9, Dr. John L. McHugh, director of Virginia's Fisheries Laboratory at Gloucester Point, spoke on the importance of seafood in the state's economy.

On June 13, the members engaged in certain natural resource practices at the annual picnic. No meetings were held in July and August.

The September 12 meeting was cancelled at the last minute because of "Hurricane Diane."

On October 12, J. Malcolm Bridges, executive manager of the Richmond Chamber of Commerce, used the subject "Urban-Rural Relations" to emphasize the importance of human as well as natural resources.

On November 14, A. H. Paessler, executive secretary of the Virginia State Water Control Board, spoke on the importance of water pollution control in the state's expanding economy.

WILDERNESS and the AIRPLANE

By BUD JACKSON

(Editor's Note: Here is an article involving a conservation subject about which we have seen little in print in Virginia Wildlife, yet a subject that is commanding considerable attention from foresters, sportsmen, wilderness advocates, etc. We commend it to your reading though not necessarily to your agreement. Opinions expressed are solely those of the author.)

THERE has been quite a bit written and said in recent months concerning the use of the airplane by hunters, fishermen and other outdoorsmen. Not all of it has been good. Not all of it has been wise. Some of it has been tripe on the very face of it. The use of aircraft has been maligned by some writers. Those who oppose its use either generally or specifically have been similarly maligned.

This, then, is an effort to help clarify our thinking upon the subject of aircraft and their use by outdoorsmen as an accessory much as guns and gear, canoes and rods and other materials are accessories.

First of all, make no mistake about it, the airplane constitutes a threat to our wilderness. So did—and does—the automobile and the railroad. So will they continue to be threats and so will be any form of mechanized transportation which *reduces the time required to move from one point to another*.

It is difficult to see how this that can be thoughtfully denied, for we all are aware of the tremendous pressures applied against the nation's natural resources by railroad and automobile. Prior to the development of these inventions, man went from place to place either upon his own legs or on horseback or horse-drawn contrivances. That was necessarily slow. Because it was, the ken of a man's particular world was limited principally to areas which he could reach in but a few days. Thus, the majority hunted or fished or canoed within a few miles' radius of home.

The car and train brought radical changes. They expanded man's hunting and fishing horizons. As those horizons were enlarged to include areas formerly unavailable save with great difficulty, the wilderness diminished in almost identical ratio. Reason for the diminution is monumentally simple. It is excessive use by man - heavy, constant, daily use involving the various conveniences and appurtenances with which man is prone to encumber himself - which destroys wilderness.

For that reason and for no other, development of the airplane could, and is beginning to, work a considerable hardship upon wilderness areas which remain and, particularly, upon those areas of our national forests, parks and monuments presently held safe from intrusion, whether by motor car, railroad or airplane. We believe the man who would deny this truth is a fool.

Therefore, with this tenet of "deterioration with abnormal use" firmly in mind, let's consider this question of wilderness and the airplane's relation to it.

When the first protests were lodged against the *indiscriminate* use of aircraft in entering and leaving otherwise untraversable areas, aviation in general set up a considerable howl. "Discrimination" was shouted. Those wishing to restrict airplane use were described as living "forty years in the past." Any who discouraged the willy-nilly use of 'planes for sport incurred the label "anti-aviation."

In all the animal kingdom, there is but one member who consistently squalls when he is hurt - man! The accuracy of a statement may frequently be gauged by the unreasoning clamor following its issuance. From the cry which fliers lifted wholesale against even moderate restrictions, these restrictions would seem to merit investigation.

Let it be distinctly understood that the Izaak Walton League of America has not opposed, does not presently oppose and does not contemplate opposing, *excepting within certain very small areas*, the general widespread use of aircraft by outdoorsmen in whole or part. The League's stated policy upon such use of aircraft - a policy which has been distorted, misquoted and generally misunderstood - follows:

"We hold that certain, distinct areas of wilderness should be set apart as *sacrosanct* from the invasion of *any* mechanized form of transportation, so that these areas may offer to him who enters them the same solitudes, the same lack of disturbance, the same natural wonders, which characterized the forests before they became overrun by man."

The italics for the word "any," above, are the author's. The League specifically has been singled out for attack both by individuals and groups who have taken exception to the League's policy - or at least, what they interpreted as its policy - upon aviation and the wilderness. Yet, what can be found in the above statement to warrant criticism from the aviator-sportsman? No special "sanctions" are invoked by it against him. Nothing is asked of him that is not asked of sportsman-traveller by rail and automobile. It seems to have been quite generally overlooked that the aviator, as such, isn't even mentioned in the policy statement.

We agree that aircraft have their uses for outdoorsmen. We recognize that such use may save much time in transferring would-be hunters and fishermen from home to *bases from which they can more readily gain access into wilderness*, there to pursue their sport. We



U. S. Forest Service Photo

The motorist is, of necessity, limited to roaded areas and the rail traveler to rail lines. Air is everywhere and the versatile airplane is restricted only by available landing sites.

have never quarreled with the establishment of landing fields and sea plane landing sites as adjuncts to wilderness sections. It is our strong conviction that such bases should be located outside the wilderness and should but give entry to it at the same point at which any man, be he motorist, train passenger or pedestrian (or air passenger) has access.

Are we asked to believe that mere possession of an airplane should automatically entitle the aviator-sportsman to privileges not open to all? Or that possession should entitle the non-sportsman to funnel heavy concentrations of outdoor users into spots safe from invasion by any other mechanized means?

Right about here, small-plane operators are a cinch to pop up with the question: "What about national parks and monuments where use of the 'plane is restricted but through which there are motor roads affording access by the automobile traveler?"

That's a fair question; there's a fair answer. First, to digress a little, a great many of the so-called roads in these areas are maintained solely for fire prevention and protection purposes. There is no public traffic over them; they are totally unsuited for public travel. The number of roads which the public may travel is actually quite limited.

But there are good reasons - ones which the aviator should appreciate - for restricting airplane use even in some areas where there are public roads. One is the lack of landing sites. Most such areas are mountainous, heavily timbered and actually hazardous for air navigation. It is difficult to comprehend why the aviator in his right mind would want to fly small craft over some of these regions.

Furthermore, we believe the small-plane operators are overlooking the fact that there are tremendous areas of wilderness available to the aviator but closed to the motorist. The shoe actually is on the other foot, in essence, for the aviator has opportunities virtually un-

limited if he wishes, while the motorist is, of necessity, limited to roaded areas and the rail traveler to rail lines. Air is everywhere!

Finally, we need to pay some heed to the *intended use* of certain areas from which the 'plane is barred. Our parks and forests still have tremendous areas of wilderness into which roads do not penetrate. Those wilderness regions are being preserved and maintained as such. But let down the bars to the 'plane and those same areas which presently are not traversable by road are immediately opened up to incursion from air.

It is difficult to understand the great hullabaloo from segments of the aviation field for a lifting of restrictions. Present areas which we desire set aside as inviolate from sea—and aircraft landings are but a tiny fraction of the total of all land and water area in this country, the remainder of which is open to the airman. Only 1.4% of all land and water area is contained in those regions which we contend should be held inviolate from the air. Of this, three-fourths of one percent is in national forests and sixty-five one-hundredths of one percent in national parks and monuments. That total makes a mighty small dot on the U. S. map and it is that almost minute portion which all this cry of "discrimination" has gone up! Now, contrast that with the thousands of miles of countryside into which the automobile is denied access by a lack of roadways. And in a good many of the areas which are included in that 1.4%, there are landing facilities nearby which afford the 'plane operator the same degree of access as is afforded the traveler by other routes, these including the Salmon River of Idaho, the Superior Roadless Area of Minnesota, among others.

That gives a somewhat ridiculous tinge to this charge that our attitude toward aviation constitutes discrimination against the small-plane operator.

Other accusations voiced by the more vocal segments of the "flying sportsmen" are easily disposed of. The League was recently singled out as "living forty years

in the past" because it was leading the drive for a commonsense attitude on sportsman air travel. The "anti-aviation" label was applied elsewhere. These handed a bit of a chuckle to some of us.

Kenneth A. Reid, executive director of the Izaak Walton League for many years, was flying an airplane by the "seat of his pants" before many modern-day enthusiasts wore long trousers. An aviation pioneer, Ken served in the air force during World War I, and remains a small-plane lover. The phrases enunciated herein as the League's wilderness policy are his!

The writer has more than a casual interest in flying and but for the loss of an eye in his youth - and subsequent discovery of the amounts of red tape which needed cutting before he could be licensed as a pilot - might be flying privately today. Many of the League's executives regularly use commercial airlines for business travel. Most of them continue to be intimately and genuinely interested in small-plane aviation and the opportunities afforded by it to the sportsman.

Many Leaguers - we could name a dozen offhand - own and operate their own planes and find therein no incongruity with the League's views on restricted zones for aircraft. Frankly, the concern of most aviators within the League is expressed anent the growing use of aircraft in abuses of laws governing hunting and fishing. All of us are familiar with recorded instances of game hoggery and law violation made possible by the 'plane and by the fact that few game-law enforcement agencies are set up in such a manner as to be able to operate against airborne violators.

GEORGE WASHINGTON (*Continued from page 12*)

the beginning he had only the familiar white-tailed Virginia deer, but later acquired some English fallow deer from the park of Governor Ogle, of Maryland. It was reported that the deer herded together, but did not interbreed.

Washington was something less of a fisherman than a hunter, though occasionally he fished in the Potomac with hook and line. At home he seems to have been more concerned with his commercial fishery at Ferry Farm. Herring and shad were the principal species caught in the seines there. The fish were salted down for use of the family and slaves and the surplus was sold.

Washington and Dr. James Craik took fishing tackle with them on both their western tours and used it in some of the mountain streams and also in the Ohio. During the Federal Convention of 1787, Washington and Gouverneur Morris made a nostalgic trip to Valley Forge where they fished for trout. On an eastern tour of 1789, he went outside the harbor of Portsmouth, New Hampshire, to fish for cod, but the tide was unfavorable and they caught only two. He had better luck off Sandy Hook the next year where he "caught a great number of sea-bass and black fish."

As a surveyor, soldier, hunter and farmer, Washington

We will freely grant, however, that in this the plane of itself is blameless. We recognize that, as a mechanical contrivance subject entirely to external influences, it possesses neither sportsmanship nor a lack of it inherently. A poor sportsman is apt to be so, regardless of his mode of conveyance! On the other hand, it seems reasonably obvious that game law violators have found the airplane an ideal vehicle for their nefarious activity. Hark you now, we are not implying that even a substantial minority of those who fly are anything but gentlemen nor that more than a minute segment of aviators are actually violators.

To get back to our original premise, however, the Izaak Walton League insists and shall continue to insist upon the banning of aircraft from those pitifully few wilderness roadless areas left in the United States and *specifically set apart as inviolate* except from the man afoot, on horseback or in canoe; we urge that restrictions presently in force against such use in national parks and monuments should be continued, continent with their flexibility in time of real emergency.

For though we will willingly concede the aviator's right to use aircraft to save time between base-points, we are prepared to prosecute vigorously and unfailingly our campaign to restrict the use of aircraft in districts now specifically set aside as wilderness inviolate from the air. It might be well, in closing, to point out that the League's own efforts for more than a quarter of a century have been devoted to defending with equal vigor the same outdoor heritage which sportsman - air-borne or not - seek to enjoy today!

was trained to look upon the land in many ways. He came to understand as so few others did in those days the interdependence of all our natural resources. "We have an almost unbounded territory" he wrote to Sir Edward Newenham in 1788, "whose natural advantages for agriculture and Commerce equal those of any on the globe . . ." Yet he was gravely concerned with the wasteful use men were making of the New World's wealth. If they ruined the "wild lands" of the West as they were already destroying the soil and forest resources along the coast and filling the erstwhile navigable streams with silt from their eroded farms, what would the future have to offer? Washington was one of the small anxious majority who worried while there still seemed to be boundless expanses of empty land, endless forests filled with countless wildlife and vast rivers and bays teeming with fish. He tried to set his new nation a good example of careful husbandry at home. To be sure he fell far short of learning all the answers. We haven't learned them yet. The recorded successes were less than his failures, but often the latter were more important in the context of scientific progress. By and large he was so progressive that men in general are only beginning to catch up with his philosophy of conservation.

WALNUT CRACKING MADE EASY

By DR. L. M. DICKERSON
U. S. Soil Conservation Service

YES, it looks unreasonable, but it is true. A new method of cracking a walnut or butternut does the job more rapidly and provides at least 6% more useable kernels than the time-honored method of holding the nut between the fingers. The secret is that the worker soon gains confidence to crack the shell with one clean, sharp blow rather than striking several blows with increasing force.

The technique is simple. A section of strap about 1" to 1½" wide is used to make a loop around the nut. Figure 1 shows the details of holding the nut and hammer. A rather narrow strap was used in the illustration to show the "on end" position of the nut more clearly. A strong, flexible leather strap is best, but not essential. We have used successfully a strip of folded canvas, an old overall suspender and even several folds of newspaper.

With a little practice one learns to slip a nut into the loop without laying down the hammer. Hold the

loop taut enough to keep the nut from turning. If the loop is held too tautly, some of the force of the blow will be transmitted to the ends of the fingers. This is unpleasant; but it does not do the damage the hammer occasionally does in the old-fashioned method. Experiment until you can strike a single, sharp blow sufficient to shatter the shell without breaking the kernel into small pieces. The second picture shows the result of a well executed stroke.

One more "wrinkle" is worthy of note. If the nut is placed in the loop and held on the block or anvil so that the end of the nut is struck, the kernels are less likely to be broken into small pieces. This technique has yielded from 5% to 10% more "quarters" and "halves" (Figure 2) than any other holding position. Usually 20% – 50% of the kernels fall free without further picking or recracking.



Note the snug fit of the loop around the nut and the "choked" grip on the hammer handle.

Photos by the Author



Note the large pieces of kernel (circled) fully exposed. Also, 3 smaller but usable pieces (small arrows) are free of the shell.

"There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace."

Aldo Leopold in *Sand County Almanac*

"We talk of our mastery of nature, which sounds very grand; but the fact is we respectfully adapt ourselves, first, to her ways." — Clarence Day

Field Force Notes



Wichita Mountains Wildlife Land Saved

Secretary of the Interior Douglas McKay has said a firm "no" to the Army's request for a chunk of the Wichita Mountain Wildlife Refuge. Saying that he was "unalterably opposed" to the transfer, McKay told Secretary of the Army Wilber M. Brucker that he hoped it would be possible "to meet the basic needs of the Fort Sill expansion program without impairing the integrity of the Wichita Refuge."

Expansion of Fort Sill was authorized by Congress last summer but the wildlife lands were not specifically mentioned. In testimony before Congressional committees, however, Army spokesmen said the plan included taking over 10,700 acres of the refuge through transfer from the Department of the Interior in addition to the acquisition of 20,320 acres of private lands.

"By this staunch action" of McKav's says the *Conservation News*, he "tossed the Wichita Mountains hot potato to President Eisenhower." The White House may decide the issue or it may refer the matter back to Congress for further study and more specific legislation.

Sheetz of Shenandoah Celebrates Silver Anniversary

Game Warden Elon D. Sheetz, of Shenandoah County, recently celebrated his 25th anniversary with the Game Commission which he joined way back in 1930. In those days he got \$105 per month and furnished his own transportation.

Sheetz, who is 62, attributes his more youthful appearance to his outdoor living and says he has never had any illness to amount to anything since he went on the job. He has always been a warden and al-

ways in Shenandoah County except when he was called on by other counties for occasional help.

The son of the late Asa Sheetz, he was born near Calvary and his only work besides that of warden was his early farming experience. He estimates that he has traveled some 400,000 miles by automobile in connection with his work and has walked

on is \$79.25, since it costs \$50. to replace the deer, \$25 fine and \$4.25 costs. Poaching costs usually run much higher.

"People are becoming more conservation-minded," says Sheetz, "which makes things a lot easier on me—and on the game and fish."

A New Look at the Red Fox

A new slant on the red fox is given in "An Evaluation of the Red Fox," by Dr. Thomas G. Scott, head of the game research section of the Illinois Natural History Survey, a division of the State Department of Registration and Education.

Dr. Scott asks for an understanding of the fox "as a complete animal" and not just as the villain pictured by the upland game hunter or the poultry raiser. "The red fox seldom exerts important pressures on wild prey," writes Dr. Scott. "Poultrymen," he adds, "could minimize losses to chickens by following recommended poultry husbandman practices."

He points out that bounty systems for controlling red fox populations have proved expensive and relatively ineffective and recommends instead more extensive hunting to keep the population in check.

"There are many interesting and novel ways in which foxes may be hunted," Dr. Scott suggests. "Fox management should include a program for encouragement of the sport. It is a kind of hunting which, if practiced in a sportsmanlike manner, tests skill and stamina to a high degree and provides opportunities for outdoor activity over a long season." Such hunting, he believes, not only tests skill and stamina and provides much outdoor activity, but holds good possibilities for reducing fox numbers and minimizing the likelihood of rabies epidemics.



Game warden Elon D. Sheetz, of Shenandoah County, recently celebrated his 25th anniversary with the Game Commission.

countless thousands more. He knows the county as most people know their back yards and probably knows even more people than the politicians.

Sheetz says the deer season isn't as hard as it used to be, although there are more hunters. However, they don't roam so deep into the mountains as they used to and there is very little poaching except by a few old "mossbacks."

He recalls that the heaviest fine he ever had levied on anyone was when five men were caught dynamiting fish in Page County. It cost them, after a great deal of detective work on his part, a stiff \$1000.

He also remembers one man who paid a \$300 fine for illegal deer. The minimum a deer poacher can get by



New Guide for Teaching Conservation off the Press

A new *Handbook for Teaching Conservation and Resource-Use* is now available to biology teachers and others who wish to incorporate conservation teachings in their school programs. The text has been prepared by the National Association of Biology Teachers in cooperation with the American Nature Association, under the direction of Dr. Richard L. Weaver of the University of Michigan.

The book is designed for teachers with actual illustrations of good teaching techniques which can be used to stimulate student and teacher interest in conservation. Teachers and youth leaders will find many answers to their questions in the "How To Do It" series which includes "How To Get Started," "Where To Get Help," "What To Do In The Classroom" and "How To Use The School Grounds and Community."

Copies of the new book are available for \$4. through the office of the Project Leader, National Association of Biology Teachers, P. O. Box 2073, Ann Arbor, Michigan. A 20 percent discount is granted to all schools.

New York Conservationist Named Assistant to Fish and Wildlife Director

Secretary of the Interior Douglas McKay has announced the appointment of Robert A. Wells as assistant to the director of the United States Fish and Wildlife Service. Wells was formerly secretary of the New York State Department of Conservation.

A newspaperman and conservation writer for 20 years before joining the Department of Conservation in 1946, Wells will advise and assist the Fish and Wildlife Service director in many phases of the progres-

sive program of fish and game development and conservation, according to McKay.

Notes on a Homing Bear

McAulderman Campbell, of Roseland, Virginia, has sent us the account of a most successful hunting expedition this past season.

On November 21, G. N. Flannagan, of Aiken, South Carolina, killed a 370-pound bear. On the 23rd he bagged an 18-pound wild turkey and, on the 24th, a deer. On the 24th, Crawford Forrest, of Ethel, Virginia, brought in a deer.



McAulderman Campbell and hunting companions display their prize bear kill after a successful hunt.

Campbell, the remaining member of the party, bagged a 465-pound bear on the 22nd and an 8-point buck on the 25th. The bear taken near Waynesboro bore tag Number 134, so Campbell relayed the information to the Virginia Cooperative Wildlife Research Unit at Blacksburg.

In reply, Allen R. Stickley, Jr., reported: "The bear was trapped and tagged by us on June 4, 1955 in the George Washington National Forest near Sherando Lake and was released on June 6 at Vance's Cove in Frederick County. That means that he

traveled a distance of approximately 85 miles in getting back to where you shot him. . . We estimated his weight to be about 300 pounds when we tagged him, so either we underestimated it or else he really put on the weight this summer."

Albino Deer Killed in Nottoway County

Walter W. Howell went bird-hunting in Nottoway County and bagged an unexpected quarry—a 170-pound 8-point albino deer.

Howell says that while bird-hunting his dog jumped the deer in some honeysuckle. Howell thought at first it was a calf with which his dog was scuffling. As he approached the animals, the dog fastened on the albino's ear, provoking it to turn on the dog. Howell then shot and killed the white buck.

Howell, who is a resident of 422 Prince George Avenue, Hopewell, claims that his oldest hunting acquaintances can recall no albino deer being shot before in this part of Virginia.

Whooping Cranes Hold Their Own in Battle for Survival

Twenty adults and eight young whooping cranes have arrived safely in the Aransas Refuge in Texas after their perilous flight across two nations. The eight young birds make up the largest crop of youngsters since the refuge was established on the Gulf of Mexico 20 years ago.

Officials of the Fish and Wildlife Service which, with Canada's Wildlife Service, has a stewardship over the whooping cranes, are hopeful that this may mark a turning point in the battle for survival and that at last every person with a gun will continue to point it downwards when he sees the big birds in flight.

Fish and Wildlife officials are pleased with the successful flight of the eight young birds, for the youngsters are nondescript in color and not as easy to identify as the huge white adults with their seven-foot spread across the black tips of their wings.

The number of whooping cranes at Aransas has fluctuated considerably since the official count of 18 birds was first made in 1938-39. The high point was 1949-50 when the number increased to 34 and the low point was the winter of 1941-42 when it dropped to 15.

Bells on the Buzzard

We have received two answers to our question, "Who belled the turkey buzzard?" One comes from Jake S. Woodson, Supervisor of State Recreational Areas, in Green Bay, Virginia.

"I happened to be the man that put the bells on the turkey buzzard," he writes. "I found the nest about two hundred yards from my house, so I decided I would bell them. I caught them before they were big enough to leave the nest and put bells on them."

Another tale of a bell on a buzzard comes from Herman Bailey, of Brookneal, Virginia. In his letter, Mr. Bailey says:

"My father, brothers and I were suckering tobacco one cloudy day at the old home at Hat Creek, southern Campbell County, and were puzzled hearing a tinkling sound like a sheep or small dinner bell. After some time we located it over head and there flying over us was a turkey buzzard with a small bell on its neck which we could see distinctly. We wondered who could have put that bell up there. Singularly that afternoon an acquaintance from Red House in Charlotte County, about 10 miles away, came home and we were telling him about the buzzard. He said he knew about it; that some one at Hammersley's tanyards, a few miles from Red House, had caught the buzzard during a season of deep snow and had put the bell on it and set it free and the buzzard had been seen over Madison Heights at Lynchburg. I have never seen it since that

one day (in 1912 or 1913). Is it possible that a buzzard could live that long and could that possibly be the same turkey buzzard?"

Although it may be stretching coincidence too much to believe this was the same turkey buzzard or that it lived that long with a bell around its neck, certainly a turkey buzzard may live that long, for such birds, as well as vultures and eagles sometimes live to be centenarians, according to Alan Devoe's *This Fascinating Animal World*.

Buck in Velvet

Game Biologist H. E. Tuttle has forwarded to us the photograph of a buck deer killed at the U. S. Naval Mine Depot, Yorktown, on December 17, 1955. The antlers still retained their velvety texture, although they were substantially hardened, a process which normally occurs in the area in July.



U. S. Navy Photo
This buck deer killed on December 17, 1955, still sports a velvety rack—most unusual for this time of year.

Navy Moves Into National Seashore Recreational Area

A military beach head in the heart of an important part of the National Park system was uncovered recently when it became known that the Navy had moved into the Cape Hatteras National Seashore Recreational Area in North Carolina, according to the Wildlife Management Institute. The Navy installation was permitted by the Interior Department officials when the Navy insisted that it must have the area for security purposes. It now appears, however, that the Navy may have put one over on the Interior Department since it is building only an oceanographic laboratory.

This national recreational area was authorized and defined by Congress in 1937 as an area "permanently reserved as a primitive wilderness." All of the 24,000 acres of the highly prized coastal area were acquired with funds raised by private groups, and by the State of North Carolina, and given to the National Park Service—and many conservationists are wondering how the Interior Department could have permitted the Navy to take over without the consent of Congress.

Coming at a time when Secretary of the Interior Douglas McKay is receiving widespread acclaim for protecting the Wichita Mountains National Wildlife Refuge from an attempted grab by the Department of the Army, this latest disclosure is surprising.

Conservationists everywhere, and the people in North Carolina in particular, were amazed to learn that the Navy got into that seashore area with nothing more than a tide testing station. If such a peace-time facility will permit invasions of the national park system, then an investigation is in order.

Rough Treatment for Litterbugs

New Hampshire legislators are out to make it tough for litterbugs. Sportsmen found throwing or placing refuse or rubbish in or around public waters may lose their fishing or hunting license for the current year in addition to a fine which shall not be more than 50 dollars.

It is hoped that this action will discourage those litterbugs who mar the scenic beauty of New Hampshire's countryside.

Birds Too Much On The Beam

When the birds go South next fall, they may have safer trips to Cuba, the Gulf of Mexico, Central America or the Orinoco. In recent years powerful vertical light beams in the vicinity of airports have been causing thousands of birds to crash. The Air Force, the Weather Bureau, and numerous other groups are cooperating so that these lights will be filtered or turned off during the migration period.

Wildlife Questions and Answers

Ques.: Why are the deer taken in some of the western counties so much larger than deer taken in tidewater sections of Virginia?

Ans.: During the early part of the century deer disappeared from all the mountain counties except Craig, Alleghany, Bath and Highland. Between 1926 and 1943 a total of 1,285 deer, largely from Pennsylvania, Wisconsin, North Carolina and Michigan were released at suitable places in the mountain counties. Although all the deer in Virginia belong to the same species of white-tailed deer (*Odocoileus virginianus*, Boddaert), those stocked from the northern states were of a larger variety. However, deer are still most numerous in the great river swamps of the tidewater section and in Bath and Highland counties where native stocks have survived.

Ques.: I am trying to get the complete words of a poem of which I can remember only the title, which is SMALL BOY IN JUNE and the first lines which are "Where is he now? Lying down in the clover, reading the news of the world there, line by line . . ."

Ans.: The poem you are seeking is by Eleanor Alletta Chaffee and the remaining lines are as follows:

Hear the wind whisper to him over and over,

'Wait for the moment; I will give you a sign.'

How can you hope that he will ever hear you?

Though you may call him he will not reply.

Like the fox he is over-cautious; he may be near you,

But still as a fieldmouse he has learned to lie.

Where is he now? Why not question the willow?

The willow that gave him a whistle and a dream,

That pointed the way to the mossy hidden pillow

Where a flashing brook wove a line like a crooked seam.

Where is he now? He is here, but how can you tell

Whether or not he is under summer's spell?

Ques.: Do all bees store honey?

Ans.: Of some 12,000 varieties of bees in the world, only four or five store honey, according to naturalist Burns.

Ques.: What are the fastest birds known? Flying? Running?

Ans.: Certain swifts and falcons are believed to be the fastest of flying birds. Two species of Indian swifts have been timed over a two-mile course and found to average 170-200 miles per hour for the distance. The European peregrine falcon has been timed at a grand speed of 180 miles per hour during a dive. The duck hawk of the United States is said to have attained a speed of 165 miles per hour. Ostriches can run 50 miles per hour.



"On these dark, dreary days, I can't sleep a blink."

Ques.: People often use the expression, "once in a 'coon's age" and I am wondering if you can tell me just how old raccoons live to be.

Ans.: A review of the literature on the longevity of animals reveals that there is little available information on the life span of raccoons. Stuewer in a study reports one animal retrapped after seven years. The president of the Tidewater Coon Hunters Association reports a pet female raccoon kept in captivity for 14 years. However, the only reliable means of ascertaining the age of a wild animal is to tag it when young and check its age when retrapped, but even that is not a decisive gauge of the normal longevity. However, researchers in the field believe that the life of a 'coon is probably quite comparable to that of a dog which Alan Devoe gives as 15, with the world's record being 25 years.

Ques.: What is the fish that does not eat?

Ans.: You probably have in mind the eastern brook lamprey, "freshwater eel" a small non-parasitic creature that inhabits freshwater brooks and streams of the Atlantic coast lowlands and parts of the Ohio Valley. The young are hatched from eggs and burrow into mud where they remain as hooded toothless larvae for three to five years. In autumn they are transformed into an adult-like lamprey, the digestive tract becomes degenerate and the metamorphoses individual does not feed. It lives till spring without feeding, then reproduces and dies. Among the most primitive eel-like animals of North America, it really is not even closely related to the true eels or fishes. It has no jaw or paired fins, but does possess gill pockets. It is, however, often spoken of as a fish which does not eat.

Ques.: Someone has told me that donkeys are hunted in California. Is that possible or do you think he was joking?

Ans.: No, the person who told you that probably wasn't joking because hunting jackasses is sanctioned by the California Department of Fish and Game. Stray burros, left or lost by grizzled prospectors during the past century, have developed into a "unique race of wily, speedy beasts, and several thousand of these dust-caked jackasses now are to be found in the barren desert hills." These animals are said to dress out sometimes to 500 pounds of sweet, gamey meat, says the Department of Fish and Game. Consumption of burro meat is limited to humans by California law. The flesh is said to rank with that of the better game animals. Fish and Game officials say that hunting the animals is sanctioned because they take over and ruin precious desert springs, destroy forage for game and stock, and sometimes kill the young of other species.

Ques.: What kind of homes do otters build for themselves? When are their young born?

Ans.: Otters den in burrows along the banks of streams and lakes, sometimes in a hollow tree or fallen log, but the entrance is usually concealed under water. The kits or cubs are born in early spring, usually two or three to a litter. They are blind and helpless for five weeks, do not even venture outside until about three months old. Then the mother teaches them to swim, sometimes forcibly, and to catch food. The family usually stays together until the kits are grown.

GREY FOX (*UROCYON CINEREOARGENTEUS*)



RANGE



SKULL, SIDE VIEW

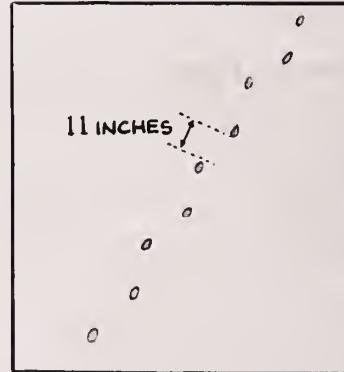


LEFT HIND



FEET,

LEFT FORWARD



GREY FOX
TROTTING

Most hunters prefer a red fox over a grey fox for the chase. The grey has a tendency to lead the dogs out of hearing range of the hunters and holes up too soon for a long hunt.

Although it doesn't always hold true in Virginia, the grey fox seems to be a woods or forest dweller while the red fox thrives in the more open farming sections.